IN THE CLAIMS:

Claims 1, 7, 12, 15, 20, and 23 through 26 were previously cancelled. None of the claims have been amended herein. All of the pending claims are presented below for convenience of the Examiner. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as previously amended.

1. (Cancelled)

2. (Previously presented) The method of claim 4, wherein a radius of the diffraction ring is about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

3. (Previously presented) The method of claim 4, wherein the at least one sidelobe inhibitor has side dimensions of about one-half of the wavelength of the radiation.

4. (Previously presented) A method for mitigating sidelobe artifacts in a radiation-patterning tool design process, comprising:

defining elements to be formed in a radiation-patterning tool as a function of a wavelength of radiation to be used to create desired patterns and resultant mitigated sidelobes;

calculating a diffraction ring around each of the elements;

identifying at least one location where one diffraction ring from one of the elements intersects another diffraction ring from another of the elements; and

forming at least one sidelobe inhibitor across the at least one location, the sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements, wherein the at least one location comprises a plurality of locations and wherein forming the at least one sidelobe inhibitor comprises:

defining a guard ring extending around each of the plurality of locations;

defining a common location in lieu of each of the plurality of locations when a portion of the guard ring from one of the plurality of locations is common with a portion of the guard ring from another one of the plurality of locations; and

forming the at least one sidelobe inhibitor across at least a portion of the plurality of locations or the common location.

5. (Previously presented) The method of claim 4, wherein the radiation-patterning tool comprises a reticle.

6. (Previously presented) The method of claim 4, wherein the radiation-patterning tool comprises a photomask.

7. (Cancelled)

8. (Previously presented) The method of claim 11, wherein each of the mathematical descriptions of each of the diffraction rings extends at a radius defined from a centroid of the mathematical description of one of the elements.

9. (Previously presented) The method of claim 8, wherein the radius of each of the mathematical descriptions of each of the diffraction rings is about eight-tenths of the defined wavelength of radiation, divided by a numerical aperture.

10. (Previously presented) The method of claim 11, wherein the sidelobe inhibitors have side dimensions of about one-half the wavelength of the radiation.

11. (Previously presented) A method of generating sidelobe inhibitors on a radiation-patterning tool, comprising:

defining a mathematical descriptions of elements and a diffraction ring around each of the elements to be formed in a radiation-patterning tool according to a defined wavelength of radiation intended to pass through the elements to create desired patterns and resultant mitigated sidelobes proximate to the desired patterns;

identifying mathematical descriptions of sidelobe inhibitors including a guard ring around each of the sidelobe inhibitors at locations where one mathematical description of a diffraction ring of one of the elements intersects another mathematical description of a diffraction ring of another of the elements; and

when of the mathematical descriptions of the sidelobe inhibitors including the guard ring around each of the sidelobe inhibitors create an overlap region, forming a common sidelobe inhibitor on the radiation-patterning tool across at least a portion of the overlap region, the common sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements.

12. (Cancelled)

13. (Previously presented) The method of claim 11, wherein the radiation-patterning tool comprises a reticle.

14. (Previously presented) The method of claim 11, wherein the radiation-patterning tool comprises a photomask.

15. (Cancelled)

16. (Previously presented) A method for designing a mask for illuminating a pattern, comprising:

defining elements to be formed in the mask;

calculating a diffraction ring around each of the elements, each diffraction ring including a radius coinciding with a location of sidelobes from a wavelength of radiation to create the elements; and

forming a sidelobe inhibitor across at least one intersection where a diffraction ring from one of the elements intersects a diffraction ring from another of the elements, the sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements, wherein the at least one intersection comprises a plurality of intersections and further comprising:

defining a guard ring extending around each of the plurality of intersections;

defining a common intersection in lieu of each of the plurality of intersections when a portion of the guard ring extending from one of the plurality of intersections is common with a portion of the guard ring extending from another one of the plurality of intersections; and

forming the sidelobe inhibitor across at least a portion of the plurality of intersections or across the common intersection.

17. (Previously presented) The method of claim 16, wherein the radius of each diffraction ring is about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

18. (Previously presented) The method of claim 16, wherein the sidelobe inhibitor has side dimensions of about one-half of the wavelength of the radiation.

19. (Previously presented) A computer-readable medium having computer-executable instructions thereon for determining the placement of sidelobe inhibitors relative to elements to be formed on a radiation-patterning tool, comprising:

calculating a diffraction ring surrounding each of a plurality of elements, each of the diffraction rings coinciding with an approximate location of a sidelobe corresponding to a wavelength of radiation for the radiation-patterning tool;

calculating intersects of the diffraction rings with other diffraction rings;

identifying the intersects as locations to place sidelobe inhibitors; and

when the sidelobe inhibitors including a guard ring around each of the sidelobe inhibitors create an overlap region, identifying a common sidelobe inhibitor for the radiation-patterning tool across at least a portion of the overlap region, the common sidelobe inhibitor being located to pass radiation in phase with the radiation passing through the elements.

20. (Cancelled)

21. (Previously presented) The computer-readable medium of claim 19, wherein the calculating a diffraction ring includes calculating a diffraction ring having a radius of about eight-tenths of the wavelength of radiation, divided by a numerical aperture.

22. (Previously presented) The computer-readable medium of claim 19, further including forming the common sidelobe inhibitor to have side dimensions of about one-half the wavelength of the radiation.

23.-26. (Cancelled)